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California Regional Water Quality Control Board

Los Angeles Region

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Gray Davis
Governor

July 15, 2003

Mr. David Nelson, Vice-President
Playa Capital Company, LLC
12555 West Jefferson Boulevard, Suite 300
Los Angeles, CA 90066

Dear Mr. Nelson:

GENERAL WASTE DISCHARGE PERMIT ENROLLMENT (ORDER NO. R4-2002-0030: SERIES 032) FOR PROPOSED LACTATE AMENDMENT SOLUTION INJECTION TO GROUNDWATER AT FORMER HUGHES TEST SITE 2 – PLAYA VISTA PROJECT, 6775 CENTINELA AVENUE, LOS ANGELES, CALIFORNIA (CLEANUP AND ABATEMENT ORDER NO. 98-125, FILE NO. 98-192, SLIC NO. 0773, SITE ID NO. 2043W-00, CI-8609)

We have completed our review of your application for enrollment under General Waste Discharge Requirements to inject lactate amendment solution to groundwater at the subject site for in-situ bioremediation to address the volatile organic compounds in groundwater.

Playa Vista is a 1,087 acre residential development project located in the western area of the City of Los Angeles near the Los Angeles International Airport. The area designated as the former Test Site 2 is located in Phase I of Area D of the Playa Vista project at Latitude: N33° 58' 13", Longitude: W118° 25' 36". The name "Test Site 2" was originally established by Hughes Aircraft for the area that was used from the early 1950's to the mid 1980's for testing aircraft equipment. In November 1986, all facilities at Test Site 2 were demolished. The Test Site 2 area is currently vacant land. Since 1986, multiple phases of soil, soil gas and groundwater investigations have been completed at the Test Site 2 area. Based upon the available data, the Chemicals of Concern (COCs) are vinyl chloride (VC), *cis*-1, 2-dichloroethene (*cis*-1, 2-DCE), and 1,1-dichloroethene (1,1-DCE).

In a letter dated June 28, 2002, the Regional Board conditionally approved the Soil and Groundwater Remediation Plan for Test Site 2 (RP) dated March 5, 2002, prepared by Camp Dresser and McKee, Inc. (CDM). In a letter dated June 10, 2003, the Regional Board approved RP addenda prepared by CDM.

The primary remedial measure to address contamination was the excavation of contaminated soil. In-situ bioremediation is now planned for the Test Site 2 area via the operation of an injection gallery to deliver lactate amendment solution to the subsurface. After the contaminated soil excavation was completed to a depth of approximately 17 feet, the infiltration gallery was installed at the base of the soil excavation footprint area (approximately 130 feet by 180 feet). The infiltration gallery consists of a network of slotted piping placed on the base of the excavation area and surrounded with a layer of gravel with a geotextile liner placed over the gravel. Clean soil was then backfilled over the infiltration gallery. Two riser pipes from the infiltration gallery, one on the north side and one on the south side, serve as the two feed line ports for the injection of lactate

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amendment solution. The primary enhanced in-situ anaerobic bioremediation reaction is expected to occur within the upper and lower areas of the Bellflower Aquitard.

A groundwater extraction trench has been constructed approximately 70 feet from the footprint area around the perimeter of the infiltration gallery. The trench is approximately 21 feet deep and is backfilled with permeable sands. Four extraction wells have been installed within the trench. Groundwater collected in the trench will be pumped from the wells and injected with a lactate amendment solution (sodium lactate, phosphate buffer, vitamins, and yeast extract) that will be pumped to the two feed line ports and reinfiltrated to groundwater via the infiltration gallery's slotted underground pipelines. The solution will mix with groundwater to promote the in-situ bioremediation and dechlorination of the COCs.

The bioremediation chemical feed/carrier water system is expected to operate at a flow rate of approximately 30 gallons per minute. The concentration of the lactate solution is not expected to exceed 2,000 milligrams per liter in the carrier groundwater that is returned to the injection gallery. The injection gallery bioremediation operation is expected to run 24 hours a day, 7 days a week for approximately three to five years. It is expected that the in-situ bioremediation and COC dechlorination will be complete and that the lactate product and its substrates will have been metabolized, without degradation of the groundwater.

The approved RAP does include the option for ex-situ treatment with the use of an ultraviolet/oxidation (Advanced Oxidation Process - AOP) treatment system for the remediation of extracted groundwater at Test Site 2. The treated water would be discharged into the sanitary sewer in accordance with an Industrial Wastewater Permit issued by the Los Angeles Department of Public Works Bureau of Sanitation. However, most groundwater flow captured by the extraction trench is expected to be used as amendment carrier water which is returned to the infiltration gallery operation. Consequently, the Discharger will only operate the AOP to treat extracted groundwater that is not reinfiltrated.

The injection activities are expected to start on July 18, 2003. Any potential adverse water quality impacts that may result will be localized, of short-term duration, and will not impact any existing or prospective uses of groundwater. Groundwater quality will be monitored to verify no long-term adverse impact to water quality. The Discharger is required per Monitoring and Reporting Program No. CI-8609 to document the quantities of lactate injected. There may be small increases associated with soluble gases such as methane, ethane, ethene, and carbon dioxide.

Regional Board staff have reviewed the information provided and have determined that the proposed discharge meets the conditions specified in Regional Board Order No. R4-2002-0030, "General Waste Discharge Requirements for Groundwater Remediation at Petroleum Hydrocarbon Fuel and/or Volatile Organic Compound Impacted Sites," adopted by this Regional Board on January 24, 2002.

Enclosed are your Waste Discharge Requirements, consisting of Regional Board Order No. R4-2002-0030 (Series 032), Monitoring and Reporting Program No. CI-8609, and Standard Provisions. Please note that the discharge limits in Attachment A (DWR Basin No. 4-11 (West Basin)) of this Order No. R4-2002-0030 are not applicable to your discharge.

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Mr. David Nelson, Vice-President
Playa Capital Company, LLC
Former Test Site 2 - Playa Vista Project

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July 15, 2003

The "Monitoring and Reporting Program" requires you to implement the monitoring program on the effective date of this enrollment (July 15, 2003) under Regional Board Order No. R4-2002-0030. All monitoring reports should be sent to the Regional Board, ATTN: Information Technology Unit.

When submitting monitoring or technical reports to the Regional Board per these requirements, please include a reference to "Compliance File No. CI-8609", which will assure that the reports are directed to the appropriate file and staff. Also, please do not combine other reports with your monitoring reports. Submit each type of report as a separate document.

We are sending a copy of Order No. R4-2002-0030 and the Standard Provisions only to the applicant. A copy of the Order will be furnished to anyone who requests it.

If you have any questions, please contact Kwang-il Lee at (213) 620-2269, or Gary Schultz at (213) 620-2264.

Sincerely,

Dennis A. Dickerson
Executive Officer

Enclosures

Board Order No. R4-2002-0030
Monitoring and Reporting Program No. CI-8609
Standard Provisions Applicable to Waste Discharge Requirements

cc: See Attached Mailing List

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Mr. Jose Reynosa, Los Angeles County, Department of Health Services
Mr. Bob Weinberger, Playa Capital Company, LLC
Mr. Dave Chernik, Playa Capital Company, LLC
Mr. Dave Chamberlin, Camp Dresser & McKee Inc.
Mr. Jay Accashian, Camp Dresser & McKee Inc.
Ms. Patricia McPherson, Grassroots Coalition
Ms. Kathy Knight, Spirit of the Sage Council
Ms. Jane Williams Californians Against Toxics
Mr. Joe Lyou, California Environmental Rights Alliance

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